

Managing Used Antifreeze

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Did you know...? Waste antifreeze often contains heavy metals such as lead, cadmium, and chromium in high enough levels to make it a regulated hazardous waste.

A study performed by the American Society of Testing and Materials (ASTM) determined that approximately 40% of used antifreeze would be considered a hazardous waste due to elevated levels of lead (ASTM document STP 1192 "Engine Coolant Testing," 1993).

- **Improper management of hazardous waste is environmentally harmful and illegal.**
- **Managing hazardous waste is expensive, too!**



Recycling is best!

Used antifreeze recycling methods involve two steps:

- Removing contaminants either by filtration, distillation, reverse osmosis, or ion exchange,
and
- Restoring critical antifreeze properties with additives. Additives typically contain chemicals that raise and stabilize pH, inhibit rust and corrosion, reduce water scaling, and slow the breakdown of ethylene or propylene glycol.

The Wisconsin Department of Natural Resources strongly encourages the recycling of used antifreeze (which is sometimes called "used engine coolant" or "used ethylene or propylene glycol"). Antifreeze becomes a waste if the original user or generator can no longer use it as antifreeze or coolant.

There are economic, environmental, and legal reasons to recycle used antifreeze, including:

- If it **is** recycled, it is considered "Wisconsin specific universal waste," which is easier and less expensive to manage.

Fortunately, there's a simpler solution. It's called recycling!

This guidance document describes the reduced regulations that apply to the used antifreeze if it is recycled.

If your business or institution chooses not to recycle the used antifreeze, you are subject to all applicable hazardous and solid waste regulations found in chs. NR 500 to 590 and 600 to 685, Wis. Adm. Code. See page 8 for a link to the hazardous waste requirements.

"Universal wastes" are widely generated wastes that meet the definition of a hazardous waste. Designation as a universal waste streamlines the hazardous waste regulations to make it easier to collect and recycle these waste streams. See *page 8* for a link to EPA's universal waste web site.

- If it is **not** recycled, it may be considered hazardous waste. As stated previously, hazardous waste is subject to more stringent requirements.
- It's cheaper to buy. Recycled antifreeze costs less than new antifreeze.
- It is illegal to discharge any hazardous waste including used antifreeze into a sanitary sewer. If you want to discharge used antifreeze, you must have data showing it's not hazardous and you must have permission from the treatment plant.
- It is always illegal to dump used antifreeze into a storm sewer or on the ground. Illegal dumping is harmful to lakes and streams, and may harm people, pets or wildlife.
- Discharging it into a septic tank and soil absorption field is illegal and will cause groundwater pollution. It could also cause the septic system to fail.
- Recycling used antifreeze properly can reduce environmental liability associated with disposal.
- Recycling conserves natural resources because ethylene glycol is produced from natural gas, a non-renewable resource.

What to do: Handlers

What's a used antifreeze "handler"?
A handler is:

- A generator of used antifreeze, or

- An owner or operator of a facility that receives used antifreeze from other handlers, accumulates the antifreeze, and sends the antifreeze to another handler or to a destination facility.

If a used antifreeze generator also treats, disposes, or recycles their own used antifreeze, they are considered a destination facility instead of a handler. Destination facilities are discussed in more detail on pages 4 to 6.

Two Types of Handlers

A "Small Quantity Handler" accumulates less than a combined total of 5,000 kilograms (approximately 1,250 gallons) of universal wastes on-site at any one time.

A "Large Quantity Handler" accumulates 5,000 kilograms (combined total) or more universal wastes on-site at any time.

The following requirements apply to both types of handlers. Additional requirements for large quantity handlers are on the next page.

If your business generates or handles used antifreeze, there are certain good housekeeping practices that you should follow. These include:

Keep Tanks and Containers in Good Condition

Containers and tanks used by handlers to accumulate used antifreeze on-site should meet all of the following requirements:

- Be structurally sound and chemically compatible with the antifreeze;
- Remain closed and sealed at all times except when antifreeze is being added or removed;
- Show no evidence of leakage, spillage, or damage;
- Be clearly labeled or marked: "Used Antifreeze."

Monitor Used Antifreeze Quantities

Handlers may accumulate used antifreeze for one year from the date the used antifreeze is generated or received from another handler. Handlers may only

accumulate used antifreeze for longer than one year from the date the waste is generated or received from another handler if such activity is solely for the purpose of accumulating such quantities as is necessary to facilitate proper recovery.

Handlers should demonstrate the length of time the used antifreeze has accumulated, starting from the date the antifreeze became waste or was received.

The handler may demonstrate length of time by:

- Marking or labeling containers with the accumulation start date, or
- Maintaining an inventory system on-site that identifies the earliest date antifreeze was added to a container or was received from off-site.

Train Your Employees

The handler should ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures.

Keep it Separate

Businesses **SHOULD NOT MIX** used antifreeze with solid or hazardous waste or other materials such as solvents or oil. Mixing the used antifreeze with other substances may inhibit its ability to be recycled and may cause it to become hazardous waste.

Respond to Releases

Handlers should immediately contain and clean up all releases of antifreeze. Any residues resulting from the cleanup of antifreeze spills or leaks that exhibit a characteristic of hazardous waste should be managed according to the applicable requirements of chs. NR 600 to 685, Wis. Adm. Code.

Handlers are required to report spills of hazardous substances to the Wisconsin Division of Emergency Management at 1-800-943-0003.

Where to Recycle Your Antifreeze

For information on companies that can handle used antifreeze see the Wisconsin Recycling Markets Directory at:

<http://www.dnr.state.wi.us/org/aw/wm/markets/>

Large Quantity Handlers should also meet all of the following additional requirements:

Notify DNR

Large quantity handlers should notify the Department prior to accumulating used antifreeze, unless they have previously notified the Department and EPA of their hazardous waste activity and received an EPA identification number. The notification form and fact sheet can be found at:

<http://www.epa.gov/epaoswer/hazwaste/data/form8700/forms.htm>

http://www.dnr.state.wi.us/org/aw/wm/publications/hazard/wa_101.pdf

Keep Records

Large quantity handlers should keep records for three years on each shipment of universal waste received or sent. These records should include the date of each shipment, the quantities of each shipment, and the name and address of the handler or facility from which used antifreeze was received or shipped to.



What to do: Transporters

When shipping used antifreeze

- Handlers may transport their waste themselves provided they meet the Universal Waste Transportation standards in ch. NR 690,

subchapter IV, Wis. Adm. Code.

<http://www.legis.state.wi.us/rsb/code/nr/nr690.pdf>

- Before sending a shipment of used antifreeze to another handler or destination facility, the originating handler should ensure that the receiving handler has agreed to receive the shipment.
- If the used antifreeze shipment is rejected by an intermediate handler or destination facility, arrangements should be made by the originating handler to take back the waste antifreeze after being notified of the rejection, or to send the used antifreeze shipment to an alternate facility.
- All shipments should also meet all applicable U.S. Department of Transportation Hazardous Materials Transportation regulations.

When receiving used antifreeze

- If one handler rejects a shipment received from another handler, arrangements should be made by the originating handler to either take back the waste antifreeze after being notified that the shipment has been rejected, or to send the used antifreeze shipment to an alternate facility.
- If a handler receives a shipment containing hazardous waste that is not considered universal waste, the handler should immediately notify the Department by contacting the Bureau of Waste Management at (608) 266-2111.
- If the handler receives a shipment of non-hazardous, non-universal waste, the handler should manage the waste in compliance with applicable federal, state, and local solid waste regulations.

If the used antifreeze is sent for disposal and not recycling, the generator, transporter and treatment, storage and disposal facilities are subject to all applicable hazardous and solid waste requirements in chs. NR 500 to 590 and 600 to 685, Wis. Adm. Code.

If the used antifreeze is transported out-of-state, the transporter should also comply with all applicable requirements of the other states.

What to do:

Destination Facilities

What's a destination facility?

A facility that treats, disposes, or recycles used antifreeze is considered a **destination facility**. The following are the three main types of antifreeze destination facilities.

- On-site recycling unit
- Off-site processor
- Mobile service unit

Owners or operators of used antifreeze destination facilities that treat, dispose or recycle used antifreeze are subject to all applicable solid or hazardous waste requirements. (See next page for specific recycling method requirements.)

Destination facilities should follow solid waste requirements in chs. NR 500 to 520, Wis. Adm. Code, unless the used antifreeze is determined to be a hazardous waste.

If the used antifreeze is determined to be a hazardous waste, the destination facility is subject to applicable hazardous waste storage requirements in chs. NR 600 to 685, Wis. Adm. Code, in lieu of the solid waste requirements. The processing of hazardous waste antifreeze may be subject to the hazardous waste standards in ch. NR 625, Wis. Adm. Code.

If the used antifreeze is processed out-of-state, the processor should comply with all applicable requirements of that state.

Persons generating residues from processing used antifreeze, such as filters, solids, and still bottoms, are responsible for managing the residues according to applicable solid and hazardous waste requirements. A Wisconsin generator of residues should perform a hazardous waste determination according to s. NR 610.05 or NR 615.06, Wis. Adm. Code, to determine whether the residues are regulated as solid or hazardous waste.

Specific requirements for each type of destination facility

	On-Site Recycling Unit	Mobile Service Unit	Off-Site Processor
Description of the method	Used antifreeze is recycled in units purchased or leased by the facility, located on-site, and operated by facility employees.	A van or truck equipped with a recycling unit visits the handler's facility and recycles used antifreeze on site.	Used antifreeze is transported to an off-site recycling facility, which may return recycled antifreeze to the customer.
When to analyze	On-site recyclers should determine whether their used antifreeze is a hazardous or solid waste.	Mobile service units should obtain a waste determination of the used antifreeze from each customer. This determination only needs to be repeated if the customer has reason to believe that the characteristics of the used antifreeze have changed.	Off-site processors should perform a waste determination on the used antifreeze from each customer. This determination only needs to be repeated if the customer has reason to believe that the characteristics of the used antifreeze have changed.
How to manage residue	On-site recyclers are considered generators of the process residue and are responsible for its proper management.	Mobile service units may choose to either: <ul style="list-style-type: none"> ● Decontaminate equipment between site visits and leave any residues on-site for the generator to properly manage ● Take responsibility for properly managing the residues off-site. 	Off-site processors are considered generators of the process residue and are responsible for its proper management.

	On-Site Recycling Unit	Mobile Service	Off-Site Processor
If the analysis shows the antifreeze to be a SOLID WASTE , destination facilities are subject to these requirements	<p>No license required if the conditions in s. NR 502.08(2)(h), Wis. Adm. Code, are met.</p> <p>Facilities operating stationary on-site units without a solid waste license may only process used antifreeze generated at the facility or received directly from "do-it-yourselfers."</p>	S. NR 502.08, Wis. Adm. Code, Solid Waste Processing Facility License is required for each mobile recycling unit to be operated in Wisconsin, regardless of operating location	S. NR 502.08, Wis. Adm. Code, Solid Waste Processing Facility License is required

	On-Site Recycling Unit	Mobile Service	Off-Site Processor
If the analysis shows the antifreeze to be a HAZARDOUS WASTE , destination facilities are subject to these requirements	Check ch. NR 625, Wis. Adm. Code, for requirements.	Check ch. NR 625, Wis. Adm. Code, for requirements.	<p>Facilities are subject to hazardous waste treatment, storage, and disposal licensing requirements in chs. NR 600 to 685, Wis. Adm. Code, if used antifreeze determined to be a hazardous waste is stored for greater than 24 hours prior to recycling.</p> <p>Recycling of hazardous used antifreeze may be subject to the recycling standards in ch. NR 625, Wis. Adm. Code.</p>

Used antifreeze self-assessment

General Management Standards

- ☐ DO NOT mix with other vehicle fluids
- ☐ DO NOT mix with other solid or hazardous wastes
- ☐ DO NOT discharge to soils, storm sewers, or surface waters.
- ☐ Used antifreeze MAY ONLY be discharged to the sanitary sewer with approval from the local sewer authority.
- ☐ Used antifreeze that is not recycled is subject to all applicable requirements of chs. NR 500 to 520 and 600 to 685, Wis. Adm. Code.

General Handler Standards

- ☐ Used antifreeze may be stored on-site for up to one year
- ☐ Ensure personnel are familiar with proper waste management procedures
- ☐ Handler should properly respond and clean-up any used antifreeze spills

Additional Large Quantity Handler Standards

- ☐ May need to submit EPA Notification Form 8700-12 to the Department and obtain I.D. number
- ☐ Records of all incoming or outgoing antifreeze shipments should be maintained on-site for at least three years

Used Antifreeze Container Storage Standards

- ☐ Clearly label containers "Used Antifreeze".
- ☐ Containers should be structurally sound and compatible with the antifreeze,
- ☐ Containers should be closed and sealed at all times except when antifreeze is being added or removed
- ☐ Containers should show no evidence of leakage, spillage, or damage.



For more information

For more information on this subject visit the DNR Waste Program website:

www.dnr.state.wi.us/org/aw/wm/

To read about all administrative codes pertaining to hazardous waste (including groundwater quality, household hazardous waste, and mercury, among many others), see:

<http://www.dnr.state.wi.us/org/aw/wm/information/wiacssh.htm>

To read about Wisconsin's hazardous waste rules (Chapters NR 600– to 685, Wis. Adm. Code), see:

<http://www.legis.state.wi.us/rsb/code/>

To read about EPA's universal waste regulations, see:

<http://www.epa.gov/epaoswer/hazwaste/id/univwast.htm>

Two useful hazardous waste guidance documents:

- *What is Hazardous Waste?*
http://www.dnr.state.wi.us/org/aw/wm/publications/hazard/wa_106.pdf
- *Hazardous Waste Determination: A Guide through NR 605, Wis. Ad. Code*
http://www.dnr.state.wi.us/org/aw/wm/publications/hazard/wa_204.pdf

For a complete list of DNR hazardous waste publications, see:

www.dnr.state.wi.us/org/aw/wm/publications/

To read about Wisconsin's hazardous waste regulatory program, see:

<http://www.dnr.state.wi.us/org/aw/wm/hazard/>

For a link to Wisconsin government, including laws, legislation, and announcements, see:

<http://www.wisconsin.gov/state/home/>

How to reach us

For additional information on waste management requirements and recycling options, contact the waste management staff at these DNR regional

offices:

Northeast Region, Green Bay

(920) 492-5800

Northern Region, Rhinelander

(715) 365-8900

Northern Region, Spooner

(715) 635-2101

South Central Region, Fitchburg

(608) 275-3266

Southeast Region, Milwaukee

(414) 263-8500

West Central Region, Eau Claire

(715) 839-3700

This document is intended solely as guidance and does not include any mandatory requirements except where requirements found in statute or administrative rule are referenced. This guidance does not establish or affect legal rights or obligations and is not finally determinative of any of the issues addressed. This guidance does not create any rights enforceable by any party in litigation with the State of Wisconsin or the Department of Natural Resources. Any regulatory decisions made by the Department of Natural Resources in any manner addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.

This publication is available in alternative format upon request. Please call (608) 266-2111 for more information.

The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services, and functions under an Affirmative Action Plan. If you have any questions, please write to Equal Opportunity Office, Department of Interior, Washington, D.C. 20240.

**Wisconsin Department of Natural Resources
P.O. Box 7921
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